FireLock® Fittings

10.03

Material Specifications:

Fitting:

Ductile iron conforming to ASTM A-536, grade 65-45-12.

Fitting Coating:

- ☐ Orange enamel
- ☐ Red enamel in Europe, Middle East, Africa, and India
- ☐ Optional: Hot dipped galvanized

Approvals/Listings:

c UL us LISTED · FM · LPCB · VdS · CTP

Product Description:

FireLock® products comprise a unique system specifically designed for fire protection services. FireLock full-flow elbows and tees feature CAD-developed, hydrodynamic design, affording a shorter center-to-end dimension than standard fittings. A noticeable bulge allows the water to make a smoother turn to maintain similar flow characteristics as standard full flow fittings.

FireLock fittings are designed for use exclusively with Victaulic couplings that have been Listed or Approved for Fire Protection Services. Use of other couplings or flange adapters may result in bolt pad interference.

Refer to the appropriate listing agency or approval body for pressure ratings. Pressure ratings vary by agency.

Job/Owner

System No.	
Location	

Contractor

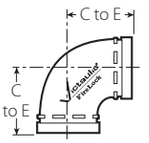
Submitted By	
Date	

Engineer

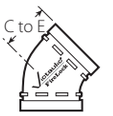
Spec Section	
Paragraph	
Approved	
Date	

10.03 1539 Rev M Updated 12/2014 © 2014 Victaulic Company. All rights reserved.

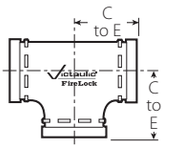
Dimensions:



NO. 001



NO. 003



NO. 002

No. 006

Nominal Size inches mm	Actual Outside Diameter inches mm	No. 001 90° Elbow C to E inches mm	No. 001 90° Elbow Approx. Weight Each Lbs. kg	No. 003 45° Elbow C to E inches mm	No. 003 45° Elbow Approx. Weight Each Lbs. kg	No. 002 Straight Tee C to E inches mm	No. 002 Straight Tee Approx. Weight Each Lbs. kg	No. 006 Cap C to E inches mm	No. 006 Cap Approx. Weight Each Lbs. kg
1 ¼ 32	1.660 42.4	—	—	—	—	—	—	0.82 21	0.3 0.1
1 ½ 40	1.900 48.3	— —	— —	— —	— —	— —	— —	0.82 21	0.4 0.2
2 50	2.375 60.3	2.75 70	1.7 0.8	2.00 51	1.8 0.8	2.75 70	2.4 1.1	0.88 22	0.6 0.3
2 ½ 65	2.875 73.0	3.00 76	3.1 1.4	2.25 57	2.2 1.0	3.00 76	3.6 1.6	0.88 22	1.0 0.5
76.1 mm	3.000 76.1	3.00 76	3.30 1.5	2.25 57	2.4 1.1	3.00 76.2	3.8 1.7	—	—
3 80	3.500 88.9	3.38 86	4.0 1.8	2.50 64	3.1 1.4	3.38 86	5.3 2.4	0.88 22	1.2 0.5
108 mm	4.250 108.0	4.00 102	5.7 2.6	3.00 76	5.1 2.3	4.00 102	7.5 3.4	—	—
4 100	4.500 114.3	4.00 102	6.7 3.0	3.00 76	5.6 2.5	4.00 102	8.7 3.9	1.00 25	2.4 1.1
5 125	5.563 141.3	4.88 124	12.6 5.7	3.25 83	8.3 3.8	4.88 124	15.7 7.1	1.00 25	4.1 1.9
139.7 mm	5.500 139.7	4.88 124.0	12.4 5.6	3.25 82.6	8.2 3.7	4.88 124.0	15.4 6.9	—	—
159 mm	6.250 158.8	5.50 140	12.6 5.7	3.50 89	9.2 4.2	5.50 140	17.9 8.0	—	—
6 150	6.625 168.3	5.50 140	18.3 8.3	3.50 89	11.7 5.3	5.50 140	22.7 10.3	1.00 25	5.9 2.7
165.1 mm	6.500 165.1	5.43 139.7	17.6 7.9	3.50 88.9	11.4 5.2	5.50 139.7	22.0 9.9	—	—
8 200	8.625 219.1	6.81 173	25.5 11.6	4.25 108	20.4 9.3	6.94 176	38.7 17.6	1.13 29	12.7 5.8

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Flow Data:

Nominal Size inches mm	Actual Outside Diameter inches mm	Frictional Resistance Equivalent Feet/meters of Straight Pipe[1]			
		Elbows		No. 002 Straight Tee	
		No. 001 90° Elbow	No. 003 45° Elbow	Branch	Run
1 ¼ 32	1.660 42.4	— —	— —	— —	— —
1 ½ 40	1.900 48.3	— —	— —	— —	— —
2 50	2.375 60.3	3.5 1.1	1.8 0.5	8.5 2.6	3.5 1.1
2 ½ 65	2.875 73.0	4.3 1.3	2.2 0.7	10.8 3.3	4.3 1.3
76.1 mm	3.000 76.1	4.5 1.4	2.3 0.7	11.0 3.4	4.5 1.4
3 80	3.500 88.9	5.0 1.5	2.6 0.8	13.0 4.0	5.0 1.5
108 mm	4.250 108.0	6.4 2.0	3.2 0.9	15.3 4.7	6.4 2.0
4 100	4.500 114.3	6.8 2.1	3.4 1.0	16.0 4.9	6.8 2.1
5 125	5.563 141.3	8.5 2.6	4.2 1.3	21.0 6.4	8.5 2.6
139.7 mm	5.500 139.7	8.3 2.5	4.1 1.3	20.6 6.3	8.3 2.5
159 mm	6.250 158.8	9.4 2.9	4.9 1.5	25.0 7.6	9.6 2.9
6 150	6.625 168.3	10.0 3.0	5.0 1.5	25.0 7.6	10.0 3.0
165.1 mm	6.500 165.1	9.8 3.0	4.9 1.5	24.5 7.5	9.8 3.0
8 200	8.625 219.1	13.0 4.0	5.0 1.5	33.0 10.1	13.0 4.0

[1] The flow data listed is based upon the pressure drop of Schedule 40 pipe.

General Notes:

NOTE: When assembling FireLock EZ couplings onto end caps, take additional care to make certain the end cap is fully seated against the gasket end stop. For FireLock EZ Style 009N/009H couplings, use FireLock No. 006 end caps containing the “EZ” marking on the inside face or No. 60 end caps containing the “QV EZ” marking on the inside face. Non-Victaulic end cap products shall not be used with Style 009/009V/009H couplings.

Installation
Reference should always be made to the I-100 Victaulic Field Installation Handbook for the product you are installing. Handbooks are included with each shipment of Victaulic products for complete installation and assembly data, and are available in PDF format on our website at www.victaulic.com.

Warranty
Refer to the Warranty section of the current Price List or contact Victaulic for details.

Note
This product shall be manufactured by Victaulic or to Victaulic specifications. All products to be installed in accordance with current Victaulic installation/assembly instructions. Victaulic reserves the right to change product specifications, designs and standard equipment without notice and without incurring obligations.

Trademarks
Victaulic® is a registered trademark of Victaulic Company.

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WM TAO & ASSOCIATES
CONSULTING ENGINEERS

Shop Drawing Submittal Review

Transmitted To: Cannon Design

Date: December 20, 2016

Attention: **stl-cac@cannondesign.com**

Contact Person / WTA Field Inspector: Patrick Garner

Project Name: Webster University-**ISB**

Reviewed by: Mike Whitworth (WES)

Project No. WT 14127.01
WES 607

[ ] UPS [ ] Courier [X] **Email**

Copies	No.	Description
1 PDF	211313F02	(Submittal No.'s:)
		(Cannon #211313-015) - (Paric #15051-0349) – (WES #607)
		➢ **Wet Pipe Sprinkler System Product Data**

*Remarks: See Submittal Review from Webb Enginnering.

c: **Kelvin Patel**
Kpatel@cannondesign.com

[X] ***Reviewed**

[X] ***No Exceptions Taken -**

[X] ***Amend and Resubmit**

[X] ***Make Corrections As Noted, No Resubmittal Required**

Corrections or comments made on shop drawings during this review do not relieve contractor from compliance with requirements of drawings and specifications. This check is only for review of general conformance with the design concept of project and general compliance with information given in contract documents. Contractor is responsible for: confirming and correlating all quantities and dimensions; selecting fabrication processes and techniques of construction; coordinating his work with that of all other trades; and performing his work in a safe and satisfactory manner.

WEBB
ENGINEERING
SERVICES INC.

1400 S. 3rd Street, Suite 201
St. Louis, Missouri 63104
Phone: (314) 588-0600
Fax: (314) 588-0604

Letter of Transmittal

To: wtashop@wmtao.com

From: Mike Whitworth

Date: December 20, 2016

Re: Webster University ISB

WES No: 607

☐ For your Files ☐ For Review ☐ Please Comment ☐ Please Reply

Item No.	Description	No. of Copies	Date
1	Shop Drawing Review – (213113-015) 211313 Wet Pipe Sprinkler System	1	12/20/16

•Signature: Mike Whitworth

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www.webb-engineering.com

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The review of this submittal is limited to the general conformance with the designated design concept and intent of this project and with the general compliance of the information provided in the contract documents. All comments, remarks and notations made on the submittal(s) as a result of this review do not relieve the contractor from full compliance with requirements of the contract documents. Approval for a specific item shall not include approval of an assembly of which the item is not a component. The contractor is solely responsible for rough-in and installation confirming and correlating all quantities and dimensions; selecting fabrication processes and techniques of construction; coordination of this work with that of other trades on this project; and in a safe and satisfactory manner. All work shall be installed in full compliance with the manufacturer's recommendation, Federal, State and Local rules and regulation and the Authority Having Jurisdiction (AHJ) and applicable adopted codes and standards.

PROJECT NAME: Webster University I
LOCATION: St. Louis Missouri
CLIENT PROJ. NO.: N/A
WES PROJ. NO.: 607
SPECIFICATION SECTION: 211313 Wet Pipe Sprinkler System
SUBMITTAL ITEM: See Below -

CONTRACTOR: J.F. Ahern Co.
CTR. SUBMITTAL #: 21 1313-015
SUBMITTAL DATE: November 29, 2016
DATE RECEIVED: December 07, 2016
RECEIVED VIA: E-Mail
RECEIVED FROM: WTA
DATE RETURNED: DECEMBER 20, 2016
RETURNED VIA: E-MAIL
RETRURNED TO: WTASHOP@WMTAO.COM

STATUS KEY:

NO EXCEPTION TAKEN
MAKE CORRECTIONS NOTED, NO RESUBMITTAL:
AMEND AND RESUBMIT
REJECTED, SEE REMARKS:
REVIEWED ONLY

NEC	MCN	AAR	REJ	REV	ITEM	REMARKS
Pages numbers have been added to cut sheets for referencing						
X					Page 001 Schedule 10 Pipe Various Manufacturers	
X					Page 002 Schedule 40 Pipe Various Manufacturers	
X					Pages 003 – 004 Test and Drain Valve AGF Manufacture ring Model – 1011A	
X					Pages 005 – 006 Backflow Preventer Zurn Industries Model – 350A	
X					Pages 007 – 008 Standard Duty Loop Hanger Caddy Model – 115 Series	

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X					Pages 009 – 010 Universal Beam Clamp Caddy Model – 300 Series	
X					Pages 011 – 016 Carbon Steel Anchor Screw Hilti Model – 3.3.5 KWIK HUS-EZ (KH-EZ1)	
X					Page 017 Riser Clamp PHD Manufacturing Model – Fig. 550-551-553	
X					Page 018 Universal Restraining Strap Afcon Model - 162	
X					Pages 019 – 027 Sleeve Expansion Anchors Powers Fasteners Model – Lok-Bolt Hex Head and Rod Hanger	
X					Pages 028 – 031 Strut Channel Gregory Strut Products Model – G712OS, G712A, G5820S, G582A and G1320OS	
X					Page 032 Surge Restraint 115 Caddy Model – SR6	
X					Page 033 Screw Anchor/Hanger ITW Model – Sammy X-Press	
		X			Pages 034 – 039 Quick Response Dry Pendent Sprinkler Viking Model - SIN Not Specified	1. SIN numbers listed in submittal (VK172, VK176, VK180 on pages 037/038) is not listed on the FP drawings in the Sprinkler schedule.
X					Pages 040 -043 Microfast Quick Response Upright Sprinkler Viking Model – SIN VK300	
		X			Pages 044 -049 Microfast Quick Response Pendent Sprinkler Viking Model – SIN VK302	1. SIN number listed in submittal (VK302 on pages 047/048) is not listed on the FP drawings in the Sprinkler schedule.

X					Pages 050 – 055 Microfast Quick Response Horizontal Sidewall Sprinkler Viking Model – SIN VK305	
X					Pages 056 – 059 Microfast Quick Response Upright Sprinkler Viking Model – SIN VK350	
		X			Pages 060 – 065 Microfast Quick Response Pendent Sprinkler Viking Model – SIN VK352 (K8.0)	1. SIN number listed in submittal (VK352 on pages 063/064) is not listed on the FP drawings in the Sprinkler schedule.
		X			Pages 066 – 071 Microfast Quick Response Pendent Sprinkler Viknig Model – SIN VK352 (K8.0)	1. SIN number listed in submittal (VK352 on pages 069/070) is not listed on the FP drawings in the Sprinkler schedule.
X					Pages 072 – 077 Mirage Standard and QR Concealed Pendent Sprinkler Viking Model – SIN VK462	
X					Page 078 Spare Sprinkler Head Cabinet FPPI Model – Not indicated	
X					Page 079 – 089-091 Spare Sprinkler Head Cabinet TYCO Model – Not Indicated	
X					Pages 080 – 088 Sprinkler Escutcheons Viking Model -	
X					Pages 092 – 094 Sprinkler Guards Viking Model – D-1	
X					Pages 095 – 100 Standard / QR Extended Coverage Upright Sprinkler Viking Model – SIN VK532	
X					Pages 101 – 106 Standard / QR Extended Coverage Pendent Sprinkler Viking Model – SIN VK534	

X					Pages 107 – 112 Mirage QR Extended Coverage Concealed Pendent Sprinkler Viking Model – SIN VK634	
		X			Pages 113 – 120 Concealed Dry Pendant Sprinkler Reliable Model – G5-56 Dry (SIN RA5114)	1. Manufacturer and model/SIN number listed in submittal is not listed on the FP drawings in the Sprinkler schedule. 2. Color/finish of cover plate to be submitted to the Architect for review and approval.
X					Pages 121 - 124 Flexible Coupling Victaulic Model – Style 75	
X					Pages 125 - 128 Reducing Coupling Victaulic Model – Style 750	
X					Pages 129 – 131 FireLock Fittings Victaulic Model – Fire lock	
X					Pages 132 – 134 FireLock Rigid Coupling Victaulic Model – Style 005H	
X					Pages 135 – 136 Fire lock Flange Adapter Victaulic Model – Style 744	
X					Pages 137 – 144 Mechanical T Bolted Branch Outlets Victaulic Model – Styles 920 and 920N	
X					Pages 145 – 149 Firelock Rigid Coupling Victaulic Model – Style 009N	
X					Pages 150 – 151 Threaded Mechanical Branch Tee Anvil Model – Fig. MT-30	
X					Pages 152 – 153 Grooved Welded Steel Pipe Outlets Vandewater International Inc. Model - Various	
X					Pages 154 – 155 Welded Steel Pipe Outlets Vandewater International Inc. Model - Various	

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X					Page 156 DI Threaded Fitting – 90 Elbow Anvil Model – Fig 3201	
X					Page 157 DI Threaded Fitting – 45 Elbow Anvil Model – Fig 3202	
X					Page 158 DI Threaded Fitting – Reducing 90 Elbow Anvil Model – Fig 3201R	
X					Page 159 DI Threaded Fitting – Straight T Anvil Model – Fig 3205	
X					Pages 160 - 161 DI Threaded Fitting – Reducing T Anvil Model – Fig 3205R	
X					Page 162 DI Threaded Fitting Anvil Model – Bull Head T	
X					Page 163 DI Threaded Fitting Cross Anvil Model - 3207	
X					Page 164 DI Threaded Fitting Anvil Model – 3221R	
X					Page 165 DI Threaded Fitting Anvil Anvil Model - 3121	
X					Page 166 DI Threaded Fitting Cap Anvil Model - 3224	
X					Page 167-168 DI Threaded Fitting Bushing Anvil Model - 3283	

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				X	Pages 169 – 183 Flexible Sprinkler Hose Victaulic Model – Series AH2 Bracket AB1, AB7 and AB7 Adjustable	1. This product is not listed in the construction documents for use on this project. Contractor has elected to incorporate into the delegated design.
X					Pages 184 – 185 Water Flow Detector System Sensor Model – WFD Series	
X					Pages 186 – 192 Supervisory Switch Potter Electrical Model – PCVS Series	
	X				Pages 193 – 194 Electric Bell Potter Electric Model – Not Indicated	1. Specified to be 10 inch diameter. Refer to specification section 211313, part 2.6, B4 and B-7.
X					Page 195 Service Gauge Ashcroft Model – 35W1005PH02LXUL300	
X					Pages 196 – 199 Intumescent Sealent STI Model - Series LCI	
X					Page 200 Fire Pump Suction and Discharge Gauges Alenco Series AG-1000L	
X					Page 201 Suction and Discharge Gauge Assembly A-C Fire Pump systems Model – Not Indicated	
	X				Pages 202 – 203 Fire Pump Test Header Potter Roemer Model – 5864-x-x-6-D-NST	1. Assembly to be mounted vertically, in space available.
Note: Fire protection drawings list sprinkler Viking model Mirage, SIN VK464 (31 total) and Viking model Dry, Sin VK194, (24 total) in the Sprinkler Schedule. These two sprinkler heads are not included in this submittal.						

REVIEWED BY: Michael R. Whitworth DATE: December 20, 2016

THESE COMMENTS ARE TO BE ATTACHED TO ALL COPIES OF THE SHOP DRAWING REFERENCED ABOVE.

CANNONDESIGN

SUBMITTAL IDENTIFICATION SHEET

To be completed by Contractor/CM

WEBSTER UNIVERSITY ISB
PROJECT NAME

8274 BIG BEND BLVD
ADDRESS

NUMBER

WEBSTER UNIVERSITY
OWNER

CANNON DESIGN
ARCHITECT / ENGINEER

Joe Voypick
SUBMITTED BY

211313-015
CONTRACTOR / CM SUBMITTAL NO.

CANNON DESIGN SUBMITTAL NO.

DRAWING / DETAIL REFERENCE

211313
SPECIFICATION SECTION / PARAGRAPH

Ahern Fire Protection
MANUFACTURER / SUPPLIER

ITEM / PRODUCT ID

REQUIRED DATE

PRIORITY

◯ CRITICAL

ITEM BEING SUBMITTED (check only one)

- ◯ Shop Drawings
- ◯ Samples (_____ copies)
- ◯ LEED Submittal
- ◯ Certification / Qualifications
- ◯ Record Documents
- ◉ Product Data
- ◯ Coordination Drawing
- ◯ Calculations
- ◯ Schedules
- ◯ O&M Manuals
- ◯ Other _____

ITEM BEING SUBMITTED FOR (check only one)

◉ Action ◯ Information Only ◯ Record

REMARKS OR DEVIATIONS

CONTRACTOR / CM CERTIFICATION
(SUBMITTALS NOT CERTIFIED WILL BE RETURNED WITHOUT REVIEW)

PARIC

PARIC CORPORATION
SUBMITTAL STAMP

THIS SHOP DRAWING HAS BEEN REVIEWED BY PARIC CORPORATION

Subcontractor remains responsible for dimensions, quantities, coordination with other trades and compliance with contract documents.

By:
Devin D. Gates

Joe Voypick
REVIEWED BY

11/30/16
DATE

To be completed by Reviewer

21 1313-015
CANNON DESIGN SUBMITTAL NUMBER

11/30/16
RECEIVED DATE

- ◯ **A. No Exceptions Taken**
  No further review of submittal is required.
- ◯ **B. Make Corrections Noted**
  Incorporate corrections in work; resubmission is not required.
- ◯ **C. Revise and Resubmit**
  Revise as noted, and resubmit for review.
- ◯ **D. Rejected**
  Submittal is not in compliance with Contract Documents; provide new submittal.
- ◯ **E. For Record / Information Only**
  Submittal was reviewed for Record / Information purposes only.
- ◯ **F. Not Required for Review**
  Submittal is not required by Contract Documents and has not been reviewed.

Review is for conformance with the design concept of this project and for general compliance with contract documents. Contractor is responsible for quantities, dimensions and compliance with contract documents and for information that pertains to fabrication processes, construction techniques and coordination of this work with all trades which will be affected thereby. This review is null and void if submittal deviates from contract documents and does not indicate or note deviations.

A/E COMMENTS ◯ See attached sheet(s) for additional comments

REVIEWED BY

DATE

77 Westport Plaza
Suite 250
St. Louis, MO 63146

TRANSMITTAL

No. 15051-0349

Paric Corporation

PROJECT: 15051-Webster University Interdisciplinary Science Building

DATE: 11/29/2016

TO: Cannon Design
1100 Clark Ave
St Louis MO 63102

Fax;
314-241-2203

RE: Wet Pipe Sprinkler System Product Data

ATTN: Kelvin Patel

JOB: 15051

WE ARE SENDING:	SUBMITTED FOR:	ACTION TAKEN:
☐ Shop Drawings	☑ Approval	☐ Approved as Submitted
☐ Letter	☐ Your Use	☐ Approved as Noted
☐ Prints	☐ As Requested	☐ Returned After Loan
☐ Change Order	☐ Review and Comment	☐ Resubmit
☐ Plans		☐ Submit
☐ Samples	**SENT VIA:**	☐ Returned
☐ Specifications	☐ Attached	☐ Returned for Corrections
☑ Other: Product Data	☐ Separate Cover Via:	☐ Due Date:

Item	*Package*	*Code*	*Rev.*	*Copies*	*Date*	*Description*	*Status*
Submittal		211313-015	1		11/29/2016	Wet Pipe Sprinkler System Product Data	Submitted

NOTES:

CC:

Signed: _____

Devin Gates